

Application No.: 10/091,945

Docket No.: JCLA6897

**In The Claims:**

Claim 1. (currently amended) A cavity down ball grid array packaging structure, comprising:

a heat spreader ~~including a chip mounting region at a central portion and a substrate mounting region located around the chip mounting region;~~

a ground substrate bonded onto the heat spreader, the ground substrate having an opening exposing the heat spreader;

a substrate bonded to the ground substrate ~~heat spreader in the substrate mounting region,~~ wherein the substrate comprises at least an insulating layer, a patterned wiring layer, and a via electrically connected to the ground substrate ~~heat spreader,~~ and the patterned wiring layer comprises at least a ball pad, a first contact pad, and a first ground pad spaced apart from and electrically connected to the via;

a chip having an active surface and a corresponding back surface, the chip being bonded into the opening of the ground substrate and onto ~~in the chip mounting region of the heat spreader via the back surface thereof,~~ wherein the active surface of the chip includes including at least a second contact pad electrically connected to the first contact pad and a second ground pad electrically connected to the ~~heat spreader,~~ the second contact pad and the second ground pad positioned on the active surface of the chip;

a first conductive wire connecting the first contact pad with the second contact pad;

a second conductive wire connecting the second ground pad with the ground substrate;

Application No.: 10/091,945

Docket No.: JCLA6897

an encapsulant material encapsulating the chip, the first and second conductive wires  
contact pads; and

a plurality of solder balls attached to the ball pad and the first ground pad.

**Claims 2-6 (canceled)**

Claim 7. (currently amended) The packaging structure of claim 1, wherein the via  
contacts with the edge of the first ground pad.

Claim 8. (original) The packaging structure of claim 1, wherein the first ground pad is  
electrically connected to the via by means of a ground conductive wiring.

**Claim 9 (canceled)**

Claim 10. (currently amended) A cavity down ball grid array packaging carrier, suitable  
for use in a chip packaging structure, the cavity down ball grid array carrier comprising:

a heat spreader ~~including a chip mounting region at a central portion and a substrate~~  
~~mounting region located around the chip mounting region; and~~

a ground substrate bonded onto the heat spreader, the ground substrate having an opening  
exposing the heat spreader; and

Application No.: 10/091,945

Docket No.: JCLA6897

a substrate bonded to the ground substrate ~~heat spreader over the substrate-mounting region~~, wherein the substrate comprises at least an insulating layer, a patterned wiring layer, and a via electrically connected to the ground substrate ~~heat spreader~~, and the patterned wiring layer comprises at least a ball pad, a contact pad, and a ground pad spaced apart from and electrically connected to the via.

**Claims 11-12 (canceled)**

Claim 13. (currently amended) The packaging carrier of claim 10, wherein the via contacts the edge of the ground pad.

Claim 14. (original) The packaging carrier of claim 10, wherein the patterned wiring layer further includes a ground conductive wiring connecting the via to the ground pad.